BEST PRACTICES RESEARCH

INTRODUCTION

The Texas State Nutrition Action Plan (SNAP), a collaborative partnership created to coordinate nutrition education messages around the state, hired SUMA/Orchard Social Marketing, Inc. (SOSM) to conduct best practices research on fruit and vegetable promotional campaigns and initiatives to help guide the development of a media campaign that will be launched in fiscal year 2009 under the leadership of the Texas Department of State Health Services Women, Infants and Children (WIC) program and Communications Division. The overarching goals of the Texas campaign are:

- to increase fruit and vegetable consumption among Texans,
- to increase awareness about the health benefits of fruits and vegetables,
- to increase awareness of community fruit and vegetable resources, and
- to identify and address barriers to eating more fruits and vegetables.

Researchers completed a detailed Internet search of materials from over 30 sources and conducted telephone interviews with program staff in two states identified as having best practice initiatives. The interviewees were:

- Dr. Nancy Chin, Associate Professor in the University of Rochester's Department of Community and Preventive Medicine and researcher for the Project Believe Nutrition Exercise Education Program; and
- Paul McConaughy, Coordinator of and Social Marketing Educator the Michigan Nutrition Network (MNN) at the Michigan State University Extension (MSUE) Network, and leader of the Grow Your Kids Program.

The researchers communicated via e-mail with Susan Pennel, Communications and Media Manager for the Network for a Healthy California's *Champions for Change* campaign.

The findings from this research suggest that increasing fruit and vegetable consumption is a nationwide goal and that many states have already initiated campaigns toward this end. Although efforts to increase fruit and vegetable consumption may be evident in most states, a few states (California, New York, Michigan, and Maine) stood out in the number, quality, and/or relevance of their initiatives. Presented below are findings related to the crucial components of these state campaigns, summaries of selected campaigns, campaigns to keep in mind for potential partnering opportunities, and detailed case studies of three campaigns that may have particular relevance to SNAP efforts. Although all of the programs are promising, most are still in the early stages of implementation, so evaluation data are limited. Two of the case studies, for *Champions for Change* and California Project LEAN, have completed campaign evaluations, and key findings for these programs are summarized. However the third case study, for *Grow Your*

Kids, is still in the formative phase, and future directions for this campaign are outlined in the Next Steps section.

KEY COMPONENTS OF CAMPAIGNS: HOW ARE COMMUNITIES EFFECTIVELY ADDRESSING THE ISSUE?

The campaigns identified as best practices in this report all encompass at least one of the following four key components.

- **The campaigns focus on empowerment, in addition to nutrition education.** Two of the campaigns that have received national attention focus on empowering parents to make healthy changes in addition to educating them about nutrition. The Project Believe Nutrition Exercise Education Program and the *Champions for Change* campaign focus on increasing mothers' sense of self-sufficiency through practical, real-life tips and strategies, rather than on nutrition education.

- **The campaigns follow a social marketing model rather than a traditional advertising format.** The social marketing model involves the creation of networks of multiple partnerships and public–private collaborations, grassroots efforts, and the use of multiple media channels. For example, Network for a Healthy California partners with almost 100 agencies at local levels. Additionally, California Project LEAN is a product of the partnership between the California Department of Health Services and the Public Health Institute.

- **The campaigns incorporate a school component.** By targeting children, campaigns are able to initiate healthy habits at a young age and encourage children to bring nutrition-focused messages home to their parents. In doing so, campaigns are eliminating a common barrier mothers face in incorporating more fruits and vegetables into their families' diets, which is that their children will not eat them. New York's *Eat Well Play Hard* campaign led nutrition-based efforts in schools and day care centers, such as establishing student gardens. Michigan's Eat Healthy. Play Hard. Read More. Family Bookbag program provides students with nutrition-focused books and activities to share with their families.

- **The campaigns promote local produce in order to help families keep costs down.** Not only do these efforts increase families' purchasing power in regard to fruits and vegetables, but they also increase community partnerships by drawing local growers into the campaign. Michigan's Garden Project encourages residents to grow their own fruits and vegetables, while *Select Michigan* and *California Grown* help shoppers identify locally grown produce

California

- The ***Champions for Change*** campaign was developed by the Network for a Healthy California and is described in a detailed case summary later in the report.

- **California Project LEAN** is a joint effort by the California Department of Health Services and the Public Health Institute. It is described in a detailed case summary later in the report.

- The California WIC Program is developing several educational campaigns to support its **Healthy Eating and Active Living (HEAL)** project.[1] *Market to Meals* is the first campaign being developed and will promote home-cooked meals. The campaign will provide four lesson plans, with complementary resources, designed to help WIC participants develop skills for meal planning, smart shopping, and meal preparation. Materials are available in both English and Spanish and include posters, bulletin board display items, and handouts.

- In 2001, many of California's agricultural industries joined together to create the Buy California Marketing Agreement in an effort to increase the awareness and consumption of locally grown agricultural products through a marketing campaign based on the Californian identity.[2] The resulting campaign, ***California Grown***, is a public–private partnership supported by the state and federal governments. The campaign's slogan ("Be Californian. Buy California Grown.") and logo (a vintage *CA Grown* license plate) identify the campaign with the consumers' California pride. *California Grown* provides the following services:

  - *California Grown Lift Kit* for retailers
  - Commercials, public service announcements, billboards, and newspaper ads
  - Classroom activities for teachers
  - Recipes featuring locally grown products developed by the state's top chefs and complementary California-produced wine list

- The **California School Garden Network (CSGN)** works to create and sustain school gardens in an effort to enhance students' academic achievement, health, environmental stewardship, and community and social development.[3] CSGN partners with a variety of state agencies, schools, private companies, and nonprofit organizations and provides support and resources throughout the state.

  Resources include:

  - Printed guides for starting and sustaining school gardens
  - A workbook designed around the implementation process

- An online guide that offers suggestions on getting approval for, creating, learning in, and sustaining the garden
- A Web site with regional contacts and trainings

➢ The **California Fresh Start** program, implemented by the California Department of Education, provides $18.2 million in funding for school breakfast programs to purchase and offer fresh fruits and vegetables to students.[4] Participating schools may determine the best method for promoting consumption of fruits and vegetables at breakfast. Suggestions include:
- Classroom breakfast that includes one or two servings of fruits or vegetables
- Grab-and-go breakfasts with one or two servings of fruits or vegetables
- Fruit and vegetable bars available in the cafeteria

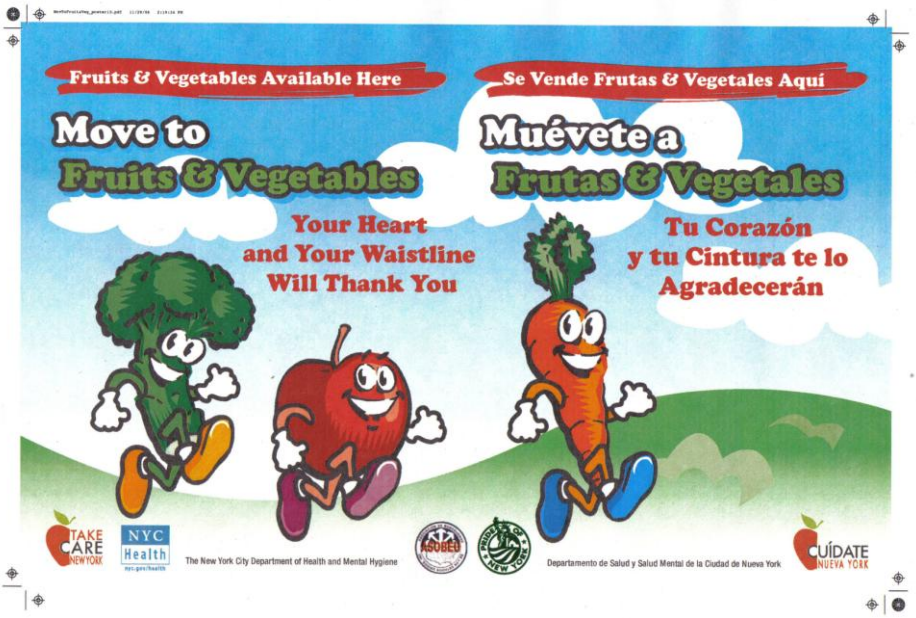
New York

➢ **Project Believe** is a community-wide initiative led by the University of Rochester Medical Center with the goal of making Rochester America's healthiest community by 2020.[5] The initiative was introduced in October 2000 and consists of five programs: the Nutrition Exercise Education Program; RUNFit (Rochester Urban Nutrition and Fitness Initiative); COPE/Healthy Children: Creating Opportunities for Personal/Parent Empowerment; Train to Sustain: A University Community Partnership to Promote Healthy Living; and Fostering Resilience Among Hispanic Children in the Rochester City School District.

Dr. Nancy Chin explained that the Nutrition Exercise Education Program partners with FoodLink, a local food bank, which sponsors Kids' Cafés. Medical and public health students attend Kids' Cafés and eat with the kids while talking to them about what they are eating and explaining how to choose healthier options. They found this tactic to be more effective than teaching a curriculum because the kids were more likely to pay attention and try new foods with the students' encouragement.

In a telephone interview completed on June 25, 2008, Dr. Chin explained that she and her team have been conducting home visits to determine the barriers families face in achieving healthier lifestyles. Her findings suggest that parents are overwhelmed (e.g., by work responsibilities, keeping their children safe) and face comorbid problems (e.g., poverty, violence, illness). Because parents demonstrate sufficient dietary knowledge, Dr. Chin suggests that the barriers families face are not due to a lack of nutrition education, but rather to the complications of putting their understanding into practice. She identifies high cost and unavailability as the primary barriers to healthier eating. In order to improve people's health, she proposes policy changes that provide families with more community support, such as subsidized farmers' markets and transportation. Dr. Chin further pointed out that many of the school-based interventions geared toward preventing obesity have been ineffective because they lacked parental components.

- The ***Move to Fruits and Vegetables*** campaign was piloted in 2007 in a joint effort by the New York Health Department's Healthy Bodegas Initiative, the New York State Department of Agriculture and Markets, and the Bodega Association of the United States.[6] The campaign provides free local produce to bodegas in low-income neighborhoods around the city and incorporates marketing and promotional tools to raise awareness of the campaign and promote healthy eating. The Health Department conducted outreach and education in schools, day care centers, and WIC centers.


Fruits & Vegetables Available Here
Move to
Fruits & Vegetables
Your Heart
and Your Waistline
Will Thank You
Se Vende Frutas & Vegetales Aquí
Muévete a
Frutas & Vegetales
Tu Corazón
y tu Cintura te lo
Agradecerán
TAKE CARE NEW YORK
NYC Health
nyc.gov/health
The New York City Department of Health and Mental Hygiene
ASOBEO
Departamento de Salud y Salud Mental de la Ciudad de Nueva York
CUÍDATE NUEVA YORK


Move to
Fruits & Vegetables
Your Heart
and Your Waistline
Will Thank You
*Kick off event:
Friday, December 8th
2:30 p.m. - 4:00 p.m.
St. Mary's Recreation Center
450 St. Ann's
(on East 145th Street)
Free
Samples!
PS 146
PS 140
PS 29
732 Melrose Ave
690 Melrose Ave
689 Melrose Ave
663 Melrose Ave
833 E 149th St
544 Bergen Ave
501 Jackson Ave
344 E 148th St
337 E 146th St
474 Willis Ave
430 Grand Concourse
512 E 145th St
St. Mary's Rec Center
390 Jackson Ave
2690 3rd Ave
365 Beekman Ave
2614 3rd Ave
PS 49
523 E 137th St
545 E 137th St
182 Willis Ave
Now Available at
Participating Bodegas
NYC Health
New York City Department of Health and Mental Hygiene
ASOBEO

- The New York City **Green Carts** initiative, signed into effect on March 13, 2008, established 1,000 permits for Green Carts, which are food stands permitted to sell only fresh fruits and vegetables.[7] The ultimate goal is to increase the availability of these foods. The carts will be placed in designated areas that have low fruit and vegetable consumption rates.

- ***Eat Well Play Hard***, a national campaign implemented by the New York State Health Department to help prevent childhood obesity and reduce long-term risks for chronic disease, makes use of three core strategies: increase consumption of fruits and vegetables; increase consumption of 1% or fat-free milk; and increase physical activity.[8] The program initiated ten community projects with a dual purpose: first, to conduct an extensive assessment of the existing resources, programs, and services in the target community; and second, to form a community partnership with broad representation from organizations including WIC, emergency food relief organizations sponsored by the Hunger Prevention and Nutrition Assistance Program (e.g., food banks), child care centers sponsored by the Child and Adult Care Food Program, and the general community. Some of the best practices from participating counties include:

  - providing food demonstrations at farmers' markets,
  - community garden projects (e.g., establishing gardens at day care centers), and
  - establishing farmers' markets at WIC locations and malls.

- The **Activ8Kids!** New York State School Nutrition and Physical Activity Best Practices Toolkit was developed by the New York State Departments of Health and Education and launched in June 2005.[9] The program's goal is to instill in children before the age of 8 a daily regimen that includes:

  - consuming at least 5 fruits and vegetables,
  - engaging in at least 1 hour of physical activity, and
  - reducing TV and video game time to under 2 hours.

  The toolkit can be found at http://www.nyhealth.gov/prevention/obesity/activ8kids/toolkit/docs/toolkit.pdf.

Michigan

- The ***Grow Your Kids With Fruits and Vegetables*** campaign was created by MSUE and is described in a detailed case summary later in this report.

- The Michigan State Nutrition Action Plan (MISNAP) Committee, the MNN, the Michigan Department of Community Health – WIC Division, and the Michigan Department of Community Health – Division of Chronic Disease and Injury Control are sponsoring the **Choices: Moving From Quantity to Quality** conference August

12–13, 2008. The conference is open to health professionals, nutrition educators, school food service professionals, child care providers, food pantry/bank staff, and consumers, among others. The conference will focus on increasing availability of and access to healthy, local food, as well as providing opportunities for collaborating with MISNAP partners.

- The Michigan Department of Community Health sponsors several initiatives under their Fruit and Vegetable Nutrition program.[10]

  - The **Garden Project**[11]: The Greater Lansing Food Bank helps home and community gardeners grow and preserve their own vegetables by providing seeds, plants, information, and a tool-lending library to registered gardeners. The Garden Project's Gleaning Program harvests surplus produce from area farms and distributes it to low-income individuals and agencies that serve those in need.

  - The **Eat Healthy. Play Hard. Read More. Family Bookbag** is an educational resource for grades K–2 that encourages students and their families to eat more fruits and vegetables. The bag includes[12]:

    - Educator's Guide – assists the Family Bookbag coordinator with setting up the program
    - Parent letter – explains the bookbag to parents
    - Five children's books – provide positive food and physical activity messages
    - Family tip sheet – information on eating healthy, being active, and reading with children
    - Recipe card set – set of 8 family-friendly recipe cards
    - Yours to Keep Bag – plastic bags that children are allowed to keep

  - One of the few programs with evaluative data was created by the **Michigan Nutrition Network** (MNN) at MSUE, which fosters multidisciplinary, community-based, public–private collaboration aimed at increasing fruit and vegetable consumption and physical activity. In 1998, MNN piloted the *Eat Healthy. Your Kids Are Watching* campaign with the goal of discovering how to combine public and private resources to deliver nutrition education messages to a wide audience.[13] MNN conducted three evaluative focus groups with 27 participants and a telephone survey with 800 respondents. The evaluation data revealed that the following:

    - The *Eat Healthy* theme was well-liked and understood.
    - Billboards and TV ads performed well.
    - School lunch menus were the best tool for reaching the target population.
    - People wanted recipes, meal planning guides, instruction in meal preparation, and "best buy" information.

- **Mixed Greens**, in conjunction with the Blandford Nature Center, invites children and the community to connect to the land, to food, and to their surroundings through hands-on experiences, such as gardening, that lead to sustainable and healthy choices.[14] The program offers field trip and day camp opportunities for children.

- The ***Select Michigan*** campaign, sponsored by the Michigan Department of Agriculture, is a consumer education initiative aimed at helping shoppers easily identify and purchase food products grown, processed, or manufactures in Michigan.[15]

  Select Michigan uses eye-catching point-of-sale materials, including stickers, posters, banners and display cards, radio, in-store tastings, and print articles to promote a variety of Michigan products, the majority of which are fruits and vegetables.

  In 2003, trended case sales data received from the supermarkets indicated that the promotions increased sales of fruits and vegetables by an average of 111% over a base period. In 2004, the dollar increase for products promoted by *Select Michigan* represented an additional 8.6% increase in dollar sales and an additional 18.9% increase in unit sales from 2003 to 2004. Forty-one percent of the growers received price premiums and sold more products because of the initiative.

Maine

- The **Veggies for ME!** program was designed by the University of Southern Maine Muskie School, the Maine WIC Nutrition Program, and the University of Maine Cooperative Extension to promote vegetable consumption among WIC participants and their families.[16] During a one-year program, WIC counselors addressed four topics at three WIC agencies during regularly scheduled visits with mothers. The topics were (1) food resource management, (2) vegetable cooking and preparation techniques, (3) feeding relationships, and (4) exploring seasonality and variety in vegetables. A telephone survey was conducted with 400 WIC clients, and the pilot evaluation showed the following results.

  - Major Barriers to Vegetable Consumption
    - Cost
    - Limited preparation skills
    - Inability to manage family likes/dislikes
    - Low familiarity with a variety of vegetables

  - Effectiveness[17]
    - Fifty-eight percent of clients have been making efforts to increase their vegetable intake.

- Fifty-two percent of clients indicated that knowing how to prepare vegetables would help them serve vegetables more often.
- Participant responses indicated that the program should be continued.

National Campaigns That May Offer Partnering Opportunities

The following two programs are noteworthy because they have been implemented on the national level and offer unique resources relevant to SNAP efforts.

- **Body & Soul: A Celebration of Healthy Eating & Living** is a health program created for African-American churches,[18] developed in a collaborative effort by the American Cancer Society, the University of North Carolina, the University of Michigan, and the National Cancer Institute. It has been used in churches around the country for ten years.[19] Successful programs have been established in California, Delaware, Georgia, North Carolina, and Virginia. The program's central goal is to encourage church members to eat fruits and vegetables daily in an effort to take care of their bodies as well as their spirits. In order to achieve this goal, Body & Soul combines pastoral leadership, educational activities, a church environment supportive of healthy eating, and peer counseling. The program was created because African-Americans are at greatest risk for the majority of diet-related diseases and the church plays an influential role in the African-American community.

- The **Fruits & Veggies – More Matters** initiative has replaced the "5 A Day" message for promoting fruit and vegetable consumption.[20] Developed by the Produce for Better Health Foundation, the campaign offers expert cooking advice, nutrition information, and shopping tips.[21] Its Web site (http://www.fruitsandveggiesmorematters.org/) provides these resources along with the Mom2Mom online community, which allows mothers to exchange questions and advice. In order to get kids involved, the campaign has an interactive Web site geared specifically toward children (http://www.foodchamps.org/) that includes games, coloring sheets, recipes, and activity sheets. The *Explore the World With Fruits and Vegetables* booklet provides suggestions and resources for nutrition and education professionals working to increase fruit and vegetable consumption among children and their families.[22]

Detailed Case Summary of the Network for a Healthy California's *Champions for Change* Campaign

Organization Summary

The California Public Health Department's Network for a Healthy California program, established in 1996, aims to create innovative partnerships that empower low-income Californians to increase fruit and vegetable consumption, physical activity, and food security.[23] Network programs are targeted at Food-Stamp-eligible populations and other households with incomes at or below 185% of the Federal poverty level.

The Network represents a statewide movement of local, state, and national partners collectively working toward improving the health status of low-income Californians by facilitating behavior change in homes, schools, work sites, and communities. There are 11 Regional Nutrition Networks.

The Network works with almost 100 local agencies in a variety of different community settings, including school districts, local health departments, county education offices, public colleges and universities, Indian tribal organizations, city governments, First Five Commissions, cooperative extension agencies, and sister programs within the California Department of Public Health, park and recreation departments, and nonprofit organizations. Among the Network's key partners are the American Cancer Society, the California Department of Education, the California Department of Social Services, the Center for Civic Partnerships, the Produce for Better Health Foundation, the University of California Davis Cooperative Extension, and Western Growers.

In addition to the *Champions for Change* campaign, the Network sponsors several other campaigns aimed at promoting fruit and vegetable consumption and physical activity, including the Be Active! Worksite Program, the Retail Program, Harvest of the Month, Power Play!, and interventions for special populations, including Latinos and African-Americans. Additionally, the Network contracts with the California Association of Food Banks to conduct Food Stamp outreach.

The Network provides the following services:

- Community interventions
- Staff support, planning, and administration, and resource development for statewide public–private partnerships
- Intervention research and evaluation
- Media and supermarket interventions
- Special projects to promote change within USDA parameters
- Training and technical assistance to Network grantees and local incentive awardees

Campaign Summary

In 2006, to inform the development of the *Champions for Change* campaign, the Network launched a grassroots pilot project aimed at promoting healthy eating and physical activity among 575,000 low-income households in five counties .[24] The Network tested a direct mailer that included a DVD, a series of mass media campaign concepts for television advertising, and a series of brand identity concepts (logos and slogans) developed specifically for the Network.[25] The major findings from the pilot are listed below.

- Respondents had positive reactions to the direct mailer.
- Respondents liked seeing real mothers representing different racial/ethnic backgrounds and sharing their personal stories and tips.
- The "ownership" aspect of the campaign was more effective than others in instilling a sense of self-sufficiency regarding individual and community change.
- Low-income mothers demonstrated a strong preference for female voice-overs.
- The "Champions for Change" slogan was the best fit with the campaign concepts.

In 2007, the Network launched the *Champions for Change* campaign. The campaign targets parents, particularly mothers, by emphasizing their "ownership" of the ability to make changes in their families' lives as well as in their communities.[26] The campaign revolves around three central goals:[27]

1. Eat more fruits and vegetables.
2. Be more active.
3. Speak up for healthy changes.

These three messages correlate with the campaign's TV spots (*My Kitchen* and *Our Community*) and with sections on the campaign's Web site (*My Kitchen*, *Be Active*, and *Our Community*). The TV spots and Web site are available in both English and Spanish.

Methodology

One of the pivotal, and most unique, aspects of the campaign is the focus on Champion Moms. Champion Moms are people "just like you" who are committed to improving their families' health and involved in making healthy changes in their communities.[28] Instead of using actors or models, these real moms are featured in the TV spots and on the Web site. Under the section *Be A Champion*, the Web site provides downloadable Hero Mom Success Cards about each Champion Mom. Each card has a picture of one of the moms along with her tips for healthy success. The campaign encourages parents to "be a champion," reiterating the points that "you are not alone" and "you make it happen."[29] The Web site encourages parents to send in their stories so that they may be recognized as Champions as well.

The Web site, http://www.cachampionsforchange.net/en/index.php, is a crucial component of the campaign and provides parents with resources for achieving the three central goals.

The *My Kitchen* section of the Web site provides:[30]

- Recipes that include fruits and vegetables
  - Breakfast Recipes
  - Lunch Recipes
  - Dinner Recipes
  - Dessert Recipes
  - Snack Recipes
  - Everyday Healthy Meals Cookbook
- "Mom-tested" tips on how to get your family to eat more fruits and vegetables
  - Produce Quick Tips
  - Seasonal Guide to Fruits and Vegetables
  - Fruits and Vegetables for Your Health
    Help Your Kids Power Up
- A link to mypyramid.gov for daily serving recommendation information
- A link to Fruits & Veggies – More Matters
- A link to the National Fruit & Vegetable Program
- A link to the Great American Eat Right Challenge
- A link to the Healthy Dining Finder

The *Be Active* section of the Web site provides:[31]

- Tips on how to get your family to be more active
  - Physical Activity for Your Health
  - Help Your Kids Be Active
- Physical activity recommendations
- A link to California State Parks Find A Park
- A link to Physical Activity for Everyone

- A link to the Governor's Council on Physical Fitness and Sports
- A link to CATCH
- A link to the California Center for Physical Activity
- A link to Network for a Healthy California – Physical Activity Specialists

The *Our Community* section of the Web site provides:[32]

- Simple steps to building a healthier community
- A calendar of community events around the state (coming soon)
- A map of regional nutrition networks
- Downloadable materials
  - Bike Lanes Pave the Way
  - Caring Youth and Adults in Diamond Neighborhood
  - Farmers' Market Grows in West Fresno
  - Food Stamps at Farmers' Market
  - Grocery Store in East Oakland
  - Movement Toward Health
  - Safe Route to Healthy Food
- A link to Get help in advocating for fruits, vegetables, and physical activity
- A link to the California Farmers' Markets Web site
- A link to the California School Garden Network

The *Resources* section of the Web site provides:[33]

- Information about Food Stamps
- Network resources
- Network free materials
- Local contact information
- Downloadable materials
  - Easy Steps to Advocate
  - Fruit & Vegetable Assessment
  - Physical Activity Assessment
  - Walkability Checklist

The campaign Web site was designated as a 2008 Webby Award Official Honoree.[34]

Hero Mom Success Card #1

CHAMPIONS for CHANGE

"Planning saves me money on fruits and vegetables."

Alma P.

Stay-at-home mom
One child, age 14 months

Compare Prices and Try Store Brands

They often cost less than name brands but have the same nutritional value. Most store brands taste as good as name brands.

Visit a Farmers' Market

Try a farmers' market to save money on fruits and vegetables — many accept EBT cards.

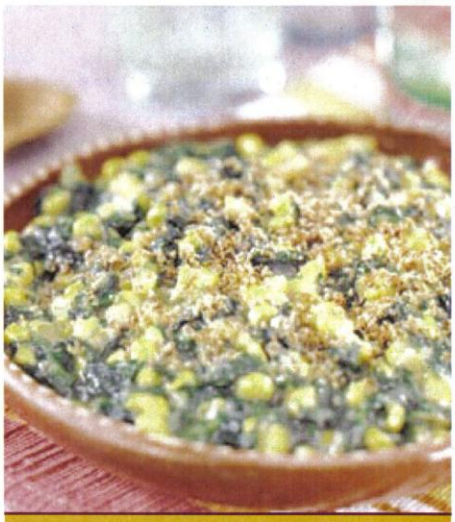
Quick and Healthy

Visit **www.cachampionsforchange.net** to learn about quick and healthy recipes that use ingredients you can keep on hand. Your family is sure to enjoy them, and they can be cheaper than going out to eat.

Mail the enclosed reply card to get FREE 'mom-tested' tips and recipes!

www.cachampionsforchange.net

Funded by the USDA Food Stamp Program through the California Department of Health Services.



Spinach Corn Casserole

Serve this vegetable dish alongside your favorite family meal.

Makes 12 servings. *½ cup per serving.*

Prep time: 10 minutes
Cook time: 20 to 30 minutes

Nutrition information per serving
Calories 105, Carbohydrate 19 g, Protein 4 g, Total Fat 3 g, Saturated Fat 1 g, Cholesterol 1 mg, Sodium 254 mg, Dietary Fiber 3 g

Ingredients

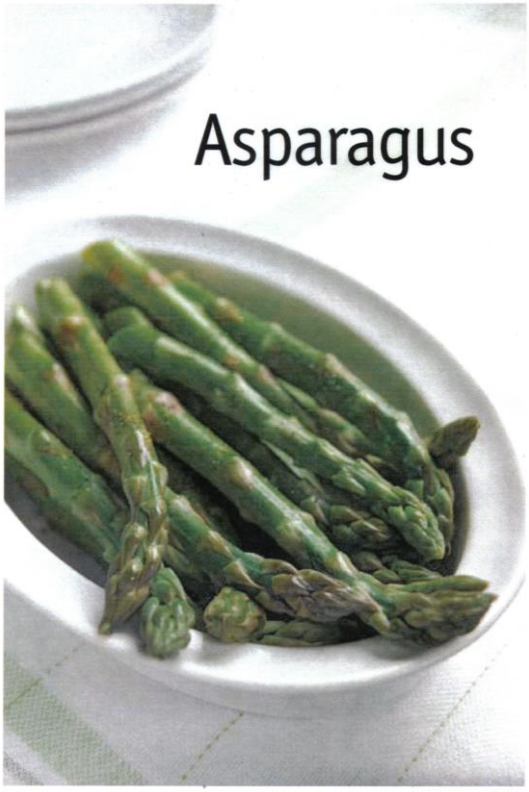
1 (16-ounce) package chopped frozen spinach
½ cup minced white onion
2 (14¾-ounce) cans creamed corn
1 tablespoon margarine
2 teaspoons vinegar
1 teaspoon salt
½ teaspoon ground black pepper

Topping

½ cup bread crumbs
2 tablespoons grated Parmesan cheese
1 tablespoon margarine

Preparation

1. Preheat oven to 400°F. Warm frozen spinach in a saucepan over medium heat. Drain excess liquid.
2. Combine spinach, onion, and creamed corn in casserole dish.
3. Melt 1 tablespoon margarine and add to casserole dish. Add vinegar, salt, and ground black pepper. Mix ingredients together.
4. Spread bread crumbs and Parmesan cheese over top of casserole. Melt remaining margarine and drizzle over topping. Bake for 20 to 30 minutes.


Asparagus

CHAMPIONS for CHANGE

Asparagus

SHOPPER'S TIPS

- Look for firm, bright green stalks with tightly closed tips.
- Avoid limp asparagus stalks or stalks with open tips.

FUN FACTS!

- Asparagus comes in green, white, and purple varieties.
- When temperatures reach 90°F, an asparagus can grow seven inches in one day.

WHAT IS IN IT FOR YOU?

One cup of asparagus (about six medium- to large-sized spears) is:

- An excellent source of vitamin A and vitamin K.
- A source of vitamin C, iron, fiber, folate, riboflavin, and thiamin.

SERVING IDEAS

- Cook asparagus in a small amount of boiling water until tender.
- Thread wooden skewers through whole spears side by side to make an asparagus "raft" that can be easily flipped on the grill.

PEAK SEASON

California grown varieties, available from mid-winter to spring, may be fresher and cost less than varieties shipped from other regions.

STORAGE

Wrap the bottoms of the stalks in a damp paper towel and place in a plastic bag. Store asparagus in the refrigerator for up to three days, and make sure the tips stay dry.

Funded by the U.S. Department of Agriculture Food Stamp Program. California Department of Public Health KIT-640/Rev. 03/08

Key Findings

In an e-mail sent on July 2, 2008 to SOSM researchers, Susan Pennel stated that the awareness level of the campaign in 2007 was at 54% among Food Stamp moms and is expected to increase in 2008. She believes consumers have responded well to the campaign and the Network's 160 partners throughout the state have embraced it. Research was conducted in early 2008 in order to inform the next wave of *Champions for Change* advertisements, which will air in 2009. Six focus groups were conducted, with a total of 34 respondents from low-income target audiences. [35] A few key findings from this study are listed below.

- High prices, lack of time, lack of skill in cooking, and resistance from family members are primary barriers to healthier eating.
- Some women felt that if they could not change 100%, there was no point in doing it at all.
- Lack of support from husbands, other family members, and peers makes it more difficult for mothers to show "will power" and "follow-through."
- Complaints about school food were common (e.g., it is unhealthy, it sends the wrong messages, it forces kids to find even worse substitutes).

- Acculturation seemed to pose major challenges for many Hispanics (e.g., eating out and driving instead of walking are American habits).
- Respondents expressed an interest in talking with and learning from other mothers. However, they did not believe that other mothers were taking specific steps to increase the health of their own families.
- Many respondents were most enthusiastic about the *My Community* portion of the campaign, possibly because it makes mothers feel less alone in the struggle.

Detailed Case Summary of California Project LEAN

Organization Summary

California Project LEAN (Leaders Encouraging Activity and Nutrition) (CPL) is a joint program of the California Department of Health Services (CDHS) and the Public Health Institute aimed at increasing healthy eating and physical activity.[36] Through an infrastructure of ten regions, CPL works with physical activity and nutrition leaders to implement interventions in communities throughout California. The program's advisory committee includes health, university, and nonprofit representatives.

In 1987, CPL was one of ten programs nationwide selected as part of the Henry J. Kaiser Family Foundation's public awareness campaign to promote low-fat eating.[37] CPL implemented a lean-meat nutrition education and media campaign, which reached one million shoppers and resulted in more than 15,000 consumers per week buying lower-fat meats. In 1991, CDHS assumed leadership of the program and expanded its reach by funding regional programs across the state.

Current CPL programs include Food on the Run, Successful Students Through Healthy Food Policies, and the *Huesos Fuertes, Familia Saludable* (Strong Bones, Healthy Families) campaign. Additionally, CPL directs community-based social marketing projects across the state. CPL serves as the local lead agency for the California Nutrition Network and is a partner on the California Obesity Prevention Initiative.

Campaign Summary

CPL published *Community-Based Social Marketing: The California Project LEAN Experience*, a manual that describes the process of planning, implementing, and evaluating its community-based social marketing campaigns conducted in low-income areas from 2000 to 2002.[38] Each LEAN Regional Coordinator was asked to carry out a project. The report is designed to assist program planners working on implementing health behavior change programs in their communities.

This report can be found at http://www.californiaprojectlean.org/Assets/1019/files/Community-Based_Social_Marketing.pdf.

Methodology
CPL programs are based on the Spectrum of Prevention model, which consists of six action levels that are designed to have the greatest impact on behavior change.[39] These levels are:

Level 1: Strengthening Individual Knowledge and Skills
Level 2: Promoting Community Education
Level 3: Training Providers
Level 4: Fostering Coalitions and Networks
Level 5: Changing Organizational Practices
Level 6: Influencing Policy and Legislation

The relevant regional campaigns are outlined below.

- **Bay Area**
  Target Audience: San Jose Job Corps students 16–25 years of age
  Behavioral Objective: Increase intake of fruit and/or vegetable servings by at least one daily
  Interventions: Taste tests, educational materials, provider education, media communications, implementation of a fruit and vegetable policy in the cafeteria
  Outcome: Fruit and vegetable intake increased by 1.07 servings per day

- **Gold Coast**
  Target Audience: Acculturated Latino mothers under 25 years of age

  Behavioral Objective: Increase intake of fruits and vegetables as snacks by at least one serving per day
  Interventions: Snack parties, WIC class topic of the month, newsletter, posters, radio Advertisements
  Outcomes: 95% ate more fruits and vegetables as snacks; daily consumption of fruits and vegetables increased by 2.05 servings after participation in a snack party

- **Gold Country**
  Target Audience: Mothers in WIC program
  Behavioral Objective: Increase intake of fruits and vegetables by one serving per day
  Interventions: Newsletter, posters, skill-building demonstrations
  Outcomes: 90% read the newsletter and 40% tried at least one recipe; 56% ate more fruits and vegetables

- **North Central Coast**
  Target Audience: Latinas who were not eating 5 servings of fruits and vegetables daily and who have children 6–10 years of age

Behavioral Objective: Increase proportion of those who report eating 5 a day from 58% to 64%
Interventions: Messages on grocery bags, community classes, taste tests, patient reminder cards, *promotoras*, radio spots, agency policies
Outcome: 78% ate 5 or more fruits and vegetables a day, compared to 58% the previous year.

Key Findings[40]

- Program planners need in-depth training in order to successfully implement social marketing campaigns.
- Staff needs to be provided with ongoing financial, technical, and evaluative assistance throughout the campaign.
- Programs should partner with local universities in order to obtain necessary expertise and consultation.
- The campaign process must be flexible in order to work with the unique needs of each community.
- Enlist the support of community partners early in the process and invest resources in continuing these partnerships.

Detailed Case Summary of the Michigan State University Extension *Grow Your Kids* Campaign

Organization Summary: Background of the Statewide Infrastructure

In 1995 and 1996, the USDA's Food and Nutrition Service approved cooperative agreements to establish Nutrition Education Networks in 22 states.[41] The statewide networks would implement nutrition education for Food-Stamp-eligible adults and children by building on existing efforts, developing public–private partnerships, and using social marketing. These initiatives would allow for the integration of nutrition education messages throughout the states' food assistance and public–private programs. The MNN at MSUE was created as a result of these agreements. As part of Michigan's Food Stamp Nutrition Education (FSNE) Plan, MNN supplements the county-based Family Nutrition Program. MNN fosters public–private partnerships to facilitate behavior change among Food Stamp Program participants in regard to nutrition and physical activity.

The Network implements the Enhancement Grant Program, which is aimed at expanding and improving FSNE efforts by maximizing the resources available for nutrition and physical activity initiatives around the state. Enhancement Grant recipient agencies enter into a subcontract with Michigan State University and receive 75 cents for every state or local dollar they spend on their initiative. Recipients also receive many resources and specialized services as a part of their grants, including consultation in the areas of project management, social marketing, graphic design, and research and evaluation.

Based on this existing statewide network, MNN helped launch the *Grow Your Kids with Fruits and Vegetables* campaign in 2006.

Campaign Summary

Grow Your Kids with Fruits and Vegetables, a social marketing campaign created in a joint effort between the Michigan Department of Agriculture, the Michigan Department of Community Health, the Michigan Public Health Institute, MSUE, and various community partners, is intended to increase fruit and vegetable consumption among Food Stamp recipients by disseminating a consistent message through community programs.[42]

The campaign involves awareness efforts by organizations that serve Food Stamp recipients through the use of posters, taste tests, and distribution of *Grow Your Kids* materials.

- For parents and caregivers, the campaign offers:
  - Spiral-bound recipe book
  - Parent tip sheets
  - Kids' activity sheets

  - Incentive items (e.g., grocery list pads)
  - Height chart
  - Newsletters

- For WIC nutrition educators and Extension staff in Michigan, the campaign offers:
  - Lesson plans adapted from existing WIC nutrition education modules (*Grow Your Kids by Season*; *Grow Your Kids for Less Money*; *Grow Your Kids With a Rainbow of Fruits and Vegetables*; *Grow Your Kids With Fruits and Vegetables*)
  - Posters

- For early childhood educators, the campaign offers classroom lesson plans.

Additionally, the *Grow Your Kids* Web site provides visitors with downloadable campaign materials and links to nutrition-focused resources.

grow your Kids with fruits and veggies

Fruits & Veggies: Helping your Family to Eat More

Fruits and veggies are tasty, healthy and affordable. They are full of vitamins and minerals for your body and are a great source of fiber. Plan to start eating more today.

Read the tips inside to learn more about choosing healthy fruits & veggies for you and your family.

How Can I Eat More Fruits & Veggies?

Tips to add more fruits & veggies to your day:

- Have a fruit bowl in the kitchen for quick snacks. Fill it with boxed raisins and fresh fruit in season.
- Have a "veggie bowl" or "drawer" in the refrigerator so everyone can see it. Fill plastic bags with carrots, sliced cucumbers, sliced sweet peppers, celery, radishes, cherry tomatoes.
- Add sliced bananas or frozen berries to low fat or fat free yogurt.
- Add one new fruit or vegetable to your shopping cart each week. Let your family pick ones they want to try.
- Snack on dried fruit such as raisins, apricots, dried plums or cranberries.
- Top your cereal with chopped apples, sliced bananas, or dried fruit.
- Have a leafy green salad or veggie filled soup such as minestrone with lunch or dinner.
- Have a baked potato bar for dinner. Provide chopped canned or fresh veggies, low fat cheese, low fat or no fat sour cream and/or vegetarian chili as topping options.
- Add more fruit or veggies to family favorites such as pizza, macaroni and cheese, sloppy joes, pudding, baked goods or tacos.

Make Fruits & Veggies Fun for Kids!

- Cut it up! Use small cookie cutters to cut up slices of fruit such as melon.
- Make pizza art! Top pizza with your kid's favorite fruits & veggies. Encourage children to make a pattern on their pizza or make smiley faces. Experiment with pineapple chunks, broccoli, mushrooms, sliced bell peppers or sliced tomato.
- Beat the summer heat. Freeze washed berries or grapes on a plate in your freezer. Store them in a plastic bag once frozen.
- Make fruit on a stick. Slice or cube your family's favorite fruits and place on a wooden or metal skewer. It is a quick and pretty dessert!
- Visit a farmer's market as a family. Let your children pick fruits & veggies to try at home. If it's something you've never tried before, ask the farmer for suggestions or recipes.
- Grow a garden together. Plant a small garden in your backyard, in a community garden or even in small containers. Let your children each pick a favorite fruit or veggie to plant and encourage them to help care for the plants while they grow.
- Make a fruit salad. Mix your favorite fresh, frozen or drained canned fruit with low fat or fat free yogurt. Top with chopped nuts, granola or dried fruit.

grow your with fruits and veggies Kids

Eat More Fiber!

How much do I need?

Adults need 25 to 35 grams of fiber each day. Most Americans eat less than half of what they need. Most everyone needs to eat more. Fiber can be found in whole grains, nuts, seeds, fruits and veggies.

Tips on How to Eat More Fiber:

- Eat brown rice instead of white rice.
- Choose whole wheat bread instead of white bread. Look for 3 grams or more fiber per slice.
- Choose whole grain cereals. Look for 5 grams or more fiber per serving.
- Double the amount of frozen or canned veggies in soups, stews and casseroles.
- Add canned beans or lentils to your favorite family recipe such as hamburgers, tacos or sloppy joes.
- Make a stir fry with chopped vegetables. You can also use frozen veggies – they cook fast as you stir fry. No need to thaw first.
- Eat whole fruit & veggies more often than juice. Fiber is found in the peel or skin. Limit juice for all family members to 100% juice only and no more than 1/2 cup per day.
- Eat more popcorn. It is a healthy whole grain food if you watch the toppings.
- Choose corn or whole wheat tortillas instead of flour tortillas.
- Mix dried fruits and unsalted nuts for a healthy snack.
- Add dry oatmeal, bran flakes or dry whole grain cereal to yogurt for added crunch.

Tip: When eating more fiber, it is important to also drink more water! Water helps fiber move through your body.

Fruit & Veggies: How Much Do I Need?
Every person is different. Check www.mypyramid.gov to find out what is right for you. Most people need 2 1/2 cups of veggies and 2 cups of fruit each day.

One cup of fruit equals:
- 1 cup cut up fresh, frozen or canned fruit
- 1 cup unsweetened applesauce
- 1/2 cup dried fruit
- 32 grapes
- 1 small apple (size of a tennis ball)
- 8 large strawberries
- 1 cup 100% fruit juice

One cup of veggies equals:
- 1 cup of fresh, frozen or canned non-leafy veggies
- 2 cups leafy greens such as spinach or romaine
- 1 cup 100% vegetable juice
- 1 cup cooked legumes (beans, peas, lentils)
- 1 large tomato (size of a tennis ball)
- 12 baby carrots
- 1 large bell pepper (size of a softball)

And, don't forget! Fruits & veggies come in 5 forms; fresh, frozen, canned, dried and 100% juice. All forms count!

Michigan Availability Guide

	Fruit	Vegetables
January	apples	onions, potatoes
February	apples	potatoes
March		potatoes
April		
May	rhubarb	asparagus
June	strawberries	asparagus, greens, lettuce, onions (green), peas, radishes, spinach, turnips
July	apples, apricots, blueberries, cherries (tart), cherries (sweet), peaches, raspberries	beans, broccoli, cabbage, carrots, celery, cucumbers (salad), greens, eggplant, lettuce, onions (green), peppers, radishes, spinach, squash (yellow, zucchini), tomatoes, turnips
August	apples, apricots, blackberries, blueberries, cantaloupe, cherries (sweet), melons, nectarines, peaches, pears, plums	beans, beets, broccoli, cabbage, carrots, cauliflower, celery, corn, cucumbers, greens, eggplant, lettuce, onions, onions (green), peppers, potatoes, radishes, spinach, squash (yellow, zucchini), tomatoes, turnips
September	apples, blackberries, blueberries, cantaloupe, grapes, melons, nectarines, peaches, pears, plums, raspberries	beans, beets, broccoli, cabbage, carrots, cauliflower, celery, corn, cucumbers, greens, eggplant, lettuce, onions, onions (green), parsnips, peppers, potatoes, pumpkins, radishes, rutabagas, spinach, squash (yellow, zucchini), squash (butternut, acorn), tomatoes, turnips
October	apples, grapes	beets, broccoli, brussel sprouts, cabbage, carrots, cauliflower, celery, greens, eggplant, onions, parsnips, peppers, potatoes, pumpkins, radishes rutabagas, spinach, squash (acorn, butternut), tomatoes, turnips
November	apples	brussel sprouts, celery, onions, potatoes, rutabagas, squash (butternut, acorn), turnips
December	apples	celery, onions, potatoes, squash (butternut, acorn)

Dietary Fiber in Fruits & Veggies
source: www.ars.usda.gov/Services/docs.htm?docid=7783

Turnips: 2 grams / 1 cup
Brussel sprouts: 3 grams / 1 cup
Sweet potato: 6 grams / 1 cup mashed
Beets: 4 grams / 1 cup cooked
Broccoli: 2 grams / 1 cup
Carrots: 3 grams / 1 cup
String green beans: 4 grams / 1 cup
Cabbage: 2 grams / 1 cup
Corn: 4 grams / 1 cup
Lettuce: 2 grams / 2 cups (equals 1 cup)

Apple: 3 grams / 1 cup
Pear: 5 grams / 1 cup
Strawberries: 3 grams / 1 cup
Tart cherries: 2 grams /

Nutrition Facts

Serving Size 1 cup (228g)
Servings Per Container 2

Amount Per Serving	
Calories 250	Calories from Fat 110
	% Daily Value*
Total Fat 12g	**18%**
Saturated Fat 3g	**15%**
Trans Fat 3g	
Cholesterol 30mg	**10%**
Sodium 660mg	**28%**
Total Carbohydrate 31g	**10%**
Dietary Fiber 0g	**0%**
Sugars 5g	
Protein 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Source:
www.cfsan.fda.gov/~dms/foodlab.html

Reading Labels:
How do I make healthy choices when I buy foods? The Nutrition Facts label on the back of every food product can help you!

Serving Size:
This is the first thing to check. All of the facts on the label, like the calories, fat, and fiber relate to this serving size.

Fat:
Stay away from food high in saturated fat and trans fat. Trans fat (partially hydrogenated vegetable oil) increases the risk of heart disease. Foods labeled "low-fat" have 3 grams or less fat per serving.

Fiber:
A food is a good source of fiber if it has at least 2.5 grams of fiber in a serving.

This material was funded by USDA's Food Stamp Program. The Food Stamp Program provides nutrition assistance. It can help you buy nutritious foods for a better diet. To find out more, contact your local DHS office, check online http://www.mfia.state.mi.us/mars/index.asp or call 1-800-481-4989.
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Methodology
The following information was procured from the Michigan FSNE FY06 End of Year Report and from a telephone interview conducted on June 24, 2008 with Paul McConaughy.

In order to avoid conflict with the FSNE funding guidelines, the campaign does not rely on mass media approaches. The pilot campaign was tested in 2006 in an urban county and a rural county. The results of focus groups conducted with the target audience were used to choose delivery sites on the basis of their accessibility to the Food Stamp population. Delivery sites included:

- MSUE offices
- WIC clinics
- Head Start agencies
- Department of Human Services
- County community service agencies
- Greater Lansing Food Bank
- Community centers
- Jump Start offices
- Michigan Works! agencies

MNN provided marketing toolkits to each site at no charge, and covered the costs of food used at taste tests and fuel used for traveling to demonstration sites. The toolkits contained:

- Campaign overview
- *Grow Your Kids* logo, letterhead, and promotional poster
- Demonstration information (e.g., tasting events)
- 4 nutrition education modules
- 3 newsletters with recipes on perforated sheets
- 1 additional perforated sheet with 4 recipes
- *Grow Your Kids* reinforcement items (e.g., window clings, photo frame magnets, cutting boards)

Two focus groups were conducted with WIC participants and two with former clients of the MSUE nutrition program or family members of MSUE staff. A few notable findings are listed below.

- Suggested Strategies
  - Implement a WIC requirement that participants read nutritional information before receiving their next set of coupons.
  - Place recipe cards near produce in the store.
  - Print recipes on produce bags.
  - Advertise the campaign on buses and/or at depots.

  - Advertise the campaign on phone messages when calling for a balance on a BRIDGE (Food Stamp) card.
  - Offer demonstrations in grocery stores.

- Staff Comments
  - People buy familiar food. Have tasting demonstrations at farmers' markets and grocery stores and offer suggestions for various things to do with the produce.
  - Use interactive displays in target areas – something that moms and kids can do together.
  - Arrange for a small group of farmers to sell produce at Food Stamp offices.
  - One respondent felt the recipe cards did not cater to low-income residents because they required too many ingredients and the message was unclear.

Next Steps

Although statistical data on the effectiveness of the campaign are not yet available, Paul McConaughy said there is anecdotal evidence that the campaign has been very well received and predicts it will be successful. The program creators spent the last year revising the campaign materials according to their focus group findings. They began the second round of implementation in mid-May of 2009 and will conduct more research in mid-August of 2009. The project team is planning to expand the campaign to other, preexisting projects, including the Family Bookbag program.

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Findings from Texas AgriLife Extension System Agent Interviews

Introduction

In order to fully understand fruit and vegetable consumption patterns and awareness in Texas, SOSM researchers interviewed fifteen agricultural extension agents (AEAs; see **Appendix A** for interview guide). AEAs are employees of the Texas AgriLife Extension Service who work in conjunction with the State Legislature and the Texas A&M System. They provide statewide, community-based health and nutrition education to limited-resource populations. Six hundred sixteen AEAs serve 250 county Extension offices across the state of Texas. Jenna Anding, Program Leader and Associate Department Head for Extension at Texas AgriLife, selected the AEAs to be interviewed for this project.

Methodology

SOSM researchers conducted half-hour interviews with each of fifteen county AEAs to learn more about their observations of fruit and vegetable consumption trends and education among their constituents across the state. Data gathered from the interviews cover the areas of fruit and vegetable consumption patterns of the AEAs' constituents, programs AEAs implement to increase consumption, challenges and barriers faced by AEAs and their clientele, and insights and observations concerning WIC and the proposed changes to the WIC food packages.

Respondents

The fifteen AEAs interviewed were from the counties of Donnelly, Lubbock, San Patricio, Harris, Williamson, Smith, Bandera, Brooks, Bailey, Galveston, Bexar, Taylor, Tarrant, Travis, and Concho.

Target Audiences

According to the AEAs, the target audiences for which they provide education and with which they work are ethnically and racially diverse, and live at or below the poverty line.

EDUCATIONAL PROGRAMS

AgriLife Extension Service provides multiple education programs involving (and sometimes even focusing on) fruit and vegetable consumption. AEAs utilize these internal programs, as well as various local resources, to educate their target populations. While some AEAs work mostly with children, others spend most of their time educating adults, young parents, or senior citizens. The programs and educational tools most frequently mentioned by the interviewees are the following:

- MyPyramid – The current food guide pyramid, which measures quantities in cups and ounces rather than servings and emphasizes physical activity in addition to good nutrition
- Better Living for Texans (BLT) – a food stamp nutrition education program that AEAs use to reach youth about fruits and vegetables and other healthy snacks
- 4-H Programs for youth
- The Expanded Nutrition Program (ENP)

Through these various programs, AEAs expose their clientele to different types of fruits and vegetables, tackle issues such as portion control, talk about preparation and food safety, and discuss recipes that incorporate fruits and vegetables. In addition to making use of the AgriLife Extension Service programs listed above, AEAs partner with local programs and organizations to educate their clients. Among the most popular programs are the following:

- Food banks
- Independent school districts and after-school programs
- Houses of worship
- Boys and Girls Clubs
- Senior adult centers
- Farmers' markets
- Even Start
- WIC

CHALLENGES

Participation. Simply getting people to participate in their presentations is a challenge for many AEAs. The majority of AEAs said that fruit and vegetable education is a priority for their target populations, but others disagree. One AEA said:

> *It's a priority for us as educators, but it may not be a priority for our target audience. Life gets in the way for our target audience. They have a lot more to think about.*

The need for incentives. Several AEAs said education alone is not enough of an incentive to get participants to attend classes.

Relevance. According to several AEAs, people do not see how fruit and vegetable consumption relates to them.

Lack of visible results. Even when people do participate, AEAs are often discouraged by the lack of visible results. They cannot ensure that their clients will make changes once they go back to their lives and routines.

Funding. Several agents expressed a desire for more money to purchase materials to use in food demonstrations and other hands-on activities. Regarding a health fair, one AEA said:

> *We can't purchase things through AgriLife. All we have are brochures. You think they're coming to my table? No. It sounds petty, but they're going to go to the person next door if they have something to offer clientele. It goes back to money.*

Location. Particularly in smaller counties, demonstration spaces are difficult to find. AEAs may use local libraries or meeting rooms, but there is no kitchen equipment for cooking demonstrations at such places.

BARRIERS

AEAs shared several ideas about the barriers their clients face when it comes to eating more fruits and vegetables.

Lack of knowledge and exposure. People will not eat what they do not know about.

Taste. Likes and dislikes get in the way of trying new fruits and vegetables or of giving them a second chance once they have been rejected. According to one AEA:

> *"My children won't eat it." We hear that a lot, and they're not going to spend money on something their kids won't eat, and they can't afford to let them throw it in the trash.*

Culture. AEAs who work primarily with Hispanics say that not many fruits and vegetables are incorporated into the typical diets of this population. Furthermore, in many homes "rice and beans" men influence what is served at the dinner table.

Several agents mentioned that many of their clients consider French fries a vegetable. One AEA said:

Our society is a fast food society and they're no different. The salads at McDonald's are more expensive than the 99-cent hamburger. Cola is cheaper than orange juice or milk.

Cost and stretching food dollars. AEAs frequently mentioned the expense of fresh fruits and vegetables. Almost every AEA voiced concerns regarding choices their constituents make when buying groceries. One said:

How can we make them understand that they can buy grapes for $2.00 and not chips for $2.50? They have a mind-set that fruits and vegetables are more expensive.

Shelf life. The drawback of fresh produce, according to some AEAs, is the fact that it is quicker to wilt and rot than prepared foods. People fear wasting money on something that will go bad before it can be eaten. Educating audiences about frozen and canned fruits and vegetables is one approach AEAs take in addressing this problem.

Transportation. Most AEAs believe gas prices are a barrier that keeps their clients from going to grocery stores more frequently, and from attending their fruit and vegetable education programs.

Quality of fruits and vegetables. One AEA commented that getting to a grocery store with a decent selection of fresh produce is a problem for members of her target audience.

One of the barriers we have in this area is that the grocery stores where they shop don't always have the best selection. Even though HEB is the major grocery store, it does not have the same variety and quality in the low-income areas of town that they do on the west side.

Other barriers reported by the AEAs include competing priorities, lack of time, lack of motivation, lack of energy for food preparation, and not having the appliances to prepare food. One AEA said:

This morning I was talking to a lady who is a single woman in her eighties, a retired professional, and I asked her, "What do you see as the biggest barrier to elderly people eating vegetables?" And she said, "The truth is, laziness." She said that people would rather eat out, rather buy prepared foods than spend time purchasing and prepping foods, no matter how limited their income. Cost is beside the point.

EDUCATION APPROACHES

Hands-on food demonstrations. Fourteen of the fifteen AEAs said that food demonstrations are the best way to educate their clients about fruits and vegetables. When people can see, feel, prepare, and then taste fruits and vegetables, it gives them exposure to something that may have been intimidating, and it teaches them how to prepare certain foods. One AEA noted that she often heard comments like, "My kids would probably eat this" after a demonstration. Another AEA said:

> *They can see it being prepared and how easy it is, then taste it. Then I think they are a lot more interested and can see that it's obtainable and they can do it.*

Importance of nutritional value. An important educational tool, according to most AEAs, is simply to explain why fruits and vegetables are important. One AEA said that one of their strategies is to

> *… figure out ways of getting them excited. WHY do you need fruits and vegetables? What's in it for them? That is a constant focus. You have to prove to them that it's worthy. It costs you this much to go to the doctor because you're not eating right, but if you eat right, you won't have to spend this money. There has to be that connection of, "Why should I eat it?" You have to sell them on it.*

"Hiding" fruits and vegetables. Several AEAs mentioned showing their participants how to "hide" fruits and vegetables in dishes like casseroles and smoothies to ensure that their families get nutritional value in a fun way.

How to shop for fruits and vegetables. AEAs explain ways to save on fruits and vegetables, such as shopping for what is on sale and knowing what is in season. They also remind their clients that frozen and canned fruits and vegetables are nutritionally comparable to fresh fruits and vegetables.

Networking groups. One AEA said she provides the education in a support network environment to allow her clients to talk about their food challenges and develop solutions together.

EDUCATIONAL NEEDS

When asked what they think are the greatest needs regarding fruit and vegetable education, AEAs gave various responses. Below are examples of topics AEAs would like to explore further.

- Helping clients identify different types of fruits and vegetables
- Hands-on demonstrations
- Incorporating fruits and vegetables into daily meal planning
- Basic how-to lessons, such as cutting and cooking
- Different ways to prepare fruits and vegetables
- Portion control and serving sizes
- Food safety
- Getting the word out about the benefits and importance of eating fruits and vegetables
- Helping clients stretch their food dollars wisely
- Educating about nutrients
- Breaking clients of the "this is the way we've always done it" attitude
- Teaching clients that they have control of their own health

Following up. Most AEAs said they address these concerns in meetings and training sessions, but they have no way to gauge the results because they cannot be sure their presentations will be helpful when everyone goes back home. Some AEAs, particularly in smaller counties, do not have the opportunity to follow up with individuals, since many of the trainings are only one session long. One AEA said:

> *I can't tell you if it's made an impact or not. When I go to do this, it's a one-shot thing.*

Others see positive changes in the form of clients who experience an "Aha!" moment during a demonstration or display animated reactions to activities. Some AEAs passed on conversations they had had with their clients weeks after training sessions, which revealed an increase in their fruit and vegetable consumption. Many agents simply hope they are getting results. As one AEA said:

> *We'd like to see better impact indicators, but so far we're not seeing people increase their fruit and vegetable consumption.*

Alternative methods. In Lubbock County, AEAs conduct surveys with their clients to find out what they have learned. The Lubbock County AEA said:

> *I think they learn from our surveys we've done. At the beginning, they indicate they have learned a lot more about food safety and sanitation and washing fruits and vegetables and not cross-contaminating, and more about the servings, the*

MyPyramid, et cetera. They are surprised that they are supposed to have four to five servings of fruit.

Harris County appears to have the most formal feedback process. Their AEAs give clients tests before and after educational events. The AEA for Harris County explains this practice as follows:

We don't do research studies per se, but we have pre-tests and post-tests and they gather statistics in another office. It seems people do better after education and experience.

Extension Agents and WIC

The AEAs' reactions differed according to their respective levels of involvement with their local WIC agencies. Those with strong ties with WIC generally had less to say about their relationships with WIC and focused more on describing what they actually did with WIC. On the other hand, AEAs with inconsistent or nonexistent partnerships with WIC acknowledged the relationship or lack thereof. Many AEAs expressed frustration with WIC, particularly the feeling of being ignored. One AEA who does partner with WIC said:

The WIC people look at us like we don't know what we're talking about.

Another AEA said:

They have dieticians and nutritionists and they wanted to send their people to my programs because they're free, but what we've found with their audiences is that we have to go where they're at. I wanted to go to their area for a program a few years ago and they pretty much said, "No, don't come, that's our area."

Brooks County has a WIC office, but AEAs have not partnered with them in five years.

They have an outside agency who works with them, so lately they've told us they have their own people and haven't invited us back. I wish we could work with them because we need to get ahold of young mothers.

Concho County no longer has a WIC office. AgriLife formerly partnered with the WIC in Eden, but the latter relocated to a city outside the county.

It really hurt a lot of people in my county when they closed it down.

While many AEAs said they were frustrated with their relationship with WIC, they clearly expressed the desire to change that relationship by partnering more with WIC.

Some AEAs remarked that they do not understand what they perceive as WIC's resistance to develop relationships with the AgriLife Extension, since both organizations work toward the same goals. One AEA said:

> *What would be a really good thing, from my point of view, is [for WIC] to invite Extension agents and find out who we are and what we do and form better partnerships and [explore] how working together will strengthen both programs. I would like to introduce this idea to the WIC Chief.*

Harris, Tarrant, Williamson, and Bexar Counties maintain strong partnerships with WIC. These counties provide food demonstrations and nutritional information for WIC clients while they wait for their appointments. In Bexar County, WIC clients must receive AgriLife's nutritional information in order to get their vouchers.

CHANGES TO THE WIC FOOD PACKAGE

Most of the AEAs we interviewed were unaware that the WIC food packages will be changing. Some were aware of impending changes to the voucher system, but food package changes came as a surprise. Many AEAs agreed that adding whole grains might be the most difficult change for WIC participants to make because of unfamiliarity, the difference in taste between whole grain bread and white bread, and the longer cooking time for brown rice. AEAs were also concerned that people would not know how to cut and prepare the fruits and vegetables, and that many WIC participants would reject reduced fat milk because they believe it has fewer nutrients than whole milk.

> *When you are talking about a limited-resource family from Mexico, they have ten to fifteen people in one household, and if only one or two of those people are receiving WIC and they have to choose between more milk or fruits and vegetables, they're not choosing the fruits and vegetables! This is bad! It should be a combination. They should not have an option.*

EDUCATING WIC PARTICIPANTS ABOUT CHANGES

AEAs communicated many ideas about how to educate WIC participants about food package changes, including:

- Training in reading nutritional labels, especially what to look for when buying whole grains
- Taste tests with milk and juices so they can know the difference between 100% juice and Sunny Delight, between reduced fat milk and whole milk
- Hands-on demonstrations about how to cut fruits and vegetables
- Hands-on demonstrations to go with recipe handouts

- Face-to-face contact at the grocery store
- Having extension agents work with WIC and farmers' markets
- One-page handouts on the changes to the WIC food packages, with few words and many graphics

The AEAs who partner with WIC assume participants will have questions about the changes. Those who have no partnership with WIC think clients who are WIC participants may have occasional questions for them.

Of the fifteen counties, Bexar seems to have the strongest partnership with WIC. The Bexar County AEA said that WIC plans to provide her and her colleagues with orientation about the food package changes.

Desired Changes to WIC Materials

Several AEAs requested more Spanish-language materials. One AEA recommended that materials be more "culturally sensitive," pointing out that educators for particular populations should "meet them where they are." Another AEA suggested a visual illustration comparing healthy and unhealthy products along with the relative nutritional information, to show participants why they should go with the healthier alternatives. One AEA who does not have a relationship with WIC requested contact information for her local WIC office.

Conclusion

The populations with which AEAs work face barriers that prevent them from consuming the desired amounts of fruits and vegetables. However, it is possible to break down some of these barriers with specialized approaches to fruit and vegetable education. The AEAs that SOSM researchers interviewed have insights, strategies, knowledge, and experience with providing limited-resource Texans with fruit and vegetable education. They are an important resource to tap into, since they are actively reaching out to populations similar to those of WIC and have ideas about how to increase fruit and vegetable consumption further.

There is an opportunity here. By cultivating a congenial partnership between the AgriLife Extension Service and WIC, statewide efforts currently under way may more effectively ensure that limited-resource populations are eating enough fruits and vegetables and are aware of their benefits.

FINDINGS FROM FOOD BANK DIRECTORS INTERVIEWS

INTRODUCTION

SOSM researchers interviewed food bank directors around the state in order to gain a deeper understanding of fruit and vegetable distribution and consumption trends among low-income Texas families (see Appendix A for interview guide). Respondents represented 13 of the 19 members of the Texas Food Bank Network (TFBN). TFBN creates a forum for food banks from all over the state to share ideas and resources and facilitates food bank collaboration with state agencies. TFBN food banks work with 3,600 agencies around the state.

TFBN currently supports two programs that directly impact fruit and vegetable distribution to low-income families: Texans Feeding Texans and Texas Fresh Approach. The Texans Feeding Texans program offers an incentive for growers to donate surplus produce to food banks for distribution to low-income families. The Texas Fresh Approach program was created out of a partnership between TFBN and the Texas Department of Criminal Justice. Inmates plant and harvest fruits and vegetables, which are then donated to food banks.

Researchers chose to interview food bank directors because of the crucial role they play in distributing fruits and vegetables to the target population.

METHODOLOGY

Researchers conducted eight interviews with food bank directors, two interviews with food bank chief operating officers, two interviews with food bank nutrition managers, and one interview with a food rescue agency director. Issues addressed in the interviews include barriers food banks face in receiving and distributing fruits and vegetables, food-bank-sponsored nutrition education opportunities, barriers clients face in consuming fruits and vegetables, suggestions for overcoming these barriers, and reactions to the new WIC food package.

RESPONDENTS

The 13 food banks represented in the interviews were:

- Food Bank of the Rio Grande Valley, Inc.
- East Texas Food Bank
- Capital Area Food Bank
- Houston Food Bank
- West Texas Food Bank
- Food Bank of Corpus Christi
- Tarrant Area Food Bank
- Southeast Texas Food Bank
- San Antonio Food Bank
- North Texas Food Bank
- End Hunger Network
- High Plains Food Bank
- South Plains Food Bank

In an effort to protect the confidentiality of the respondents, food bank names will be the only means of identification used throughout this section of the report.

Service Areas
The food banks represented in the interviews vary greatly in regard to service area. The number of counties served ranges from 4 to 27.

Barriers Food Banks Face Receiving and Distributing Fruits and Vegetables

When asked if they would be willing to participate in interviews regarding fruit and vegetable consumption, all of the respondents were eager to contribute. Many of the food banks had already set the goal of improving the health of their client populations and have made efforts toward accomplishing this objective. Respondents were eager to share their experiences, learn about other agencies' efforts, and work toward establishing goal-oriented partnerships.

Although Texas food banks have accomplished a great deal in regard to nutrition education, they still face many barriers in actually providing their clients with healthier options, specifically fresh fruits and vegetables.

Barriers to Receiving Fruits and Vegetables

Availability and Cost

Many food banks have difficulty acquiring fresh fruits and vegetables because they are not located in agriculturally productive areas and have to pay to have produce shipped to them. Two respondents quoted produce shipments as costing between $1,500 and $2,500, and with gas prices as high as they are, freight costs continue to rise.

> *Central Texas isn't an agricultural center. For the most part we have to bring in produce from outside our service area, and usually fruits and vegetables are donated to food banks in that area.*

Quality and Variety

Even when food banks receive sufficient donations of fruits and vegetables, they struggle with the quality and variety of the produce they receive. In some cases, the donations are of such poor quality that the agencies will not accept delivery. Additionally, food banks have a difficult time distributing fruits and vegetables that people do not like or do not know how to prepare; therefore, improving the variety of donations is an essential step in increasing fruit and vegetable distribution.

> *Quality is a problem. Sometimes donors forget we're feeding people and they just call us when they need to get rid of something. Also, with the ethnic makeup down here, they don't know what a lot of it is, or how to use them, like greens. We had some snow peas, and I ended up shipping them to a food bank in San Francisco where there was a large Asian population.*

Storage

Once food banks receive quality produce, they must find a way to store and deliver it before it goes bad because fruits and vegetables have relatively short shelf lives. This is especially true for the food rescue organization, End Hunger Network, which picks up perishable food that will soon be thrown away. (Three of the food banks contacted declined to be interviewed, explaining that they did not have adequate refrigeration facilities to store produce and, therefore, did not handle fruits and vegetables.)

> *The food we pick up has such a short shelf life, like it will be bad tomorrow.*

> *The capacity to handle fruits and vegetables is a barrier. We have cooler space, but it can only hold so much.*

Barriers to Distributing Fruits and Vegetables

Agency Capacity
Although most food banks have sufficient storage facilities, the agencies to which they deliver usually do not have room or adequate refrigeration equipment to keep the produce for any length of time. Consequently, the food banks are challenged with coordinating their deliveries with the agencies' distribution schedules. A few food banks have invested in refrigerated trailers to overcome this obstacle, but this solution adds to the food banks' overall costs and they cannot afford to supply enough trailers to meet all of their agencies' needs.

> *We have 200 agencies and the problems are at that level. They may not have room to store fruits and vegetables, so unless we deliver them at just the right time, it doesn't work.*

Cost
Several respondents acknowledged that the costs of labor, trucks, and gas are all hindrances for food banks when it comes to distributing fruits and vegetables. A few expressed a need for additional funds in order to assign a couple of employees and a truck to work exclusively on fruit and vegetable delivery.

> *We cover such a large area—we need assistance with transportation and gas costs.*

> *If I had more money, for fuel, trucks, et cetera, I could carry more loads.*

Locally Grown Produce
Most food banks do not receive or distribute locally grown produce due to lack of availability. Because produce donations come primarily from large growers, food banks do not often acquire locally grown fruits and vegetables. The only food banks that reported receiving locally grown produce were those located near agricultural areas, such as the Rio Grande Valley and Marfa, and even these food banks do not receive local donations on a regular basis. Furthermore, a significant amount of produce donations comes from food distributors, which limits food banks' ability to determine where their produce originated.

> *[We get] Very little—they are usually just walk-in donations from very small growers.*

Suggestions for Increasing the Amount of Fruits and Vegetables Available for Clients

Provide Variety

Several respondents pointed out that a variety of fruits and vegetables needs to be available at each of the agencies in order to increase the amount clients take home and eat. The food banks often receive the unusual produce that distributors have a difficult time selling, which leaves food bank clients with limited options.

> *We don't receive a lot of variety. It would be good to provide a choice for the clientele, otherwise there is limited appeal. For example, cabbage—they didn't grow up with it and don't know how to use it.*

Offer Demonstrations

In order to address their clients' unfamiliarity with certain types of fruits and vegetables, respondents suggested that the agencies provide clients with recipes, taste tests, and cooking demonstrations.

> *If you invite people to try fruits and vegetables, and they like them, they will take them.*

Improve Marketing Tactics

One respondent pointed out that the easiest way to increase the availability of fruits and vegetables for clients was to improve food banks' ability to provide more produce. In order to increase the amount of donations food banks receive, she suggested using marketing campaigns to expand awareness of food banks and food rescue organizations among food distributors and growers.

> *We need to let more produce distributors know about our service so they can call us instead of putting it in the landfill.*

Food Bank Nutrition Education Classes

In order to help improve their clients' health, the majority of food banks have established nutrition education programs, which they feel are highly effective. All but one of the food banks offer nutrition-focused education classes; the food rescue organization does not offer classes. The various types of classes offered are described below.

General Nutrition Classes

Most of the food banks offer general nutrition classes for all age groups, usually held at their agencies. Children's classes are often conducted in their classrooms or at their after school programs, such as Boys & Girls Clubs. Adult classes are often held at food distribution centers, churches, women's shelters, homeless shelters, housing authorities, or health fairs. These classes have predominantly female audiences between the ages of 30 and 60. Senior classes are conducted at senior citizen centers.

The classes are generally offered at different locations every week. The content covers a variety of nutritional issues, such as reading food labels, shopping cost-effectively, determining nutritional value, and cooking skills. Although they are not always offered, incentives include kitchen gadgets (e.g., thermometers) and bags of food. The most successful classes involve hands-on demonstrations of how to compare the nutritional values of different foods, or how to cook produce.

Kids' Café

Kids' Café programs provide free meals and snacks to low-income children, and many of the food banks use this as an opportunity to teach kids about fruits and vegetables. They often teach the children how to make healthy meals.

> *At the Kids' Café sometimes we have Smoothies for Supper, and they make smoothies and then we talk about nutrition.*

Operation Frontline

Three of the food banks represented in the interviews use the Operation Frontline curriculum and format for their nutrition education classes. Operation Frontline was created by the national Share Our Strength organization. It is a six-week course with one two-hour class per week. Participants receive workbooks, handouts, and recipes. The first four weeks involve food demonstrations by local chefs and nutrition experts. For the fifth class, participants are taken on a tour of the grocery store to show them that they do not have to spend more money to eat healthier. The sixth class is a celebration during which they learn how to make healthy celebration foods. If participants attend four or more classes, they receive a certificate and a graduation goodie bag, which includes items such as a thermometer, kitchen cleaners, and lunch containers. Although Share Our Strength provides the workbooks, evaluations, and a few gifts, the food bank is responsible for all other costs and each class is limited to 15 people. However, respondents cited it as the most in-depth nutrition course available.

Televised Classes

Three of the food banks conduct cooking demonstrations weekly on local television stations, which enables them to reach a larger audience in a more convenient manner.

The Food Bank of Corpus Christi reaches 18,245,364 people through their media outreach efforts, which include their TV shows and Web site.

Farm & Garden Program and Community Supported Agriculture

The South Plains Food Bank created the Farm & Garden Program, which takes at-risk youth to a farm and teaches them how to grow, cook, and market produce. South Plains is also involved with the Community Supported Agriculture program, in which community members can buy shares in the food bank's farm and, in return, receive five pounds of produce each week, contingent on the productivity of the farm.

Happy Kitchen

The Food Bank of Corpus Christi uses the Happy Kitchen curriculum, which is based on *My Pyramid*. The classes aim to expose people to new foods and reach approximately 5,000 people per year.

Information on Fruits and Vegetables and Gardening

The vast majority of food banks that offer nutrition education classes provide information on fruits and vegetables during the courses (one director was unsure whether her food bank's classes did or not).

Only two of the food banks offer information on locally grown produce, and four offer classes on gardening, with one additional food bank in the process of establishing a gardening component. Two of the four food banks that offer classes on gardening have taught classes on container gardening for people who would like to garden but do not have the space. The two that offer information on locally grown produce work to support community gardening efforts.

Barriers to Fruit and Vegetable Consumption

Unfamiliarity

Overwhelmingly, respondents identified unfamiliarity as the primary barrier to their clientele's eating more fruits and vegetables. They pointed out that people who did not grow up eating fruits and vegetables are less likely to pick them out at the agency or store. They are resistant to try a new fruit or vegetable because they do not know what it tastes like or how to prepare it.

> *They have an unwillingness to try something they're not familiar with and a lack of knowledge about preparation.*

Cost

A few respondents acknowledged that the cost of fruits and vegetables is a barrier for many families to increase fruit and vegetable consumption. When families are on tight budgets, they do not want to spend their money on food items that will be inedible in a few days.

> *Cost—people want to spend their money on food that will last.*

Fresh Versus Frozen

The two nutrition education managers mentioned that some of their clients feel that if they cannot have fresh fruits and vegetables, then nothing else will do. These respondents teach their clients how to compare nutritional value between fresh, frozen, and canned fruits and vegetables, and how to improve the less healthy options (e.g., washing the salt off of canned vegetables).

> *They have weird ideas about nutrition, like "If I can't eat fresh produce every day, then nothing else is good enough."*

Lack of Control

A few respondents mentioned that their parent clients worry about incorporating fruits and vegetables into their meals when they know that their family members will not like the taste. One of the nutrition education managers noted that the mothers she works with express a sense of lacking control over what their families eat. She identifies the media as a mother's primary competition in terms of influencing her children's eating habits.

> *They give Gatorade to their kids and they don't know why—the kids ask for it. They feel like they have lost control of their homes.*

Suggestions for Enabling People to Eat More Fruits and Vegetables

Increase Familiarity

The majority of respondents recognized that their clients want more fruits and vegetables than they are able to deliver; however, the clients are specific about wanting more of the fruits and vegetables that they actually like. Food banks and their agencies, as well as grocery stores, can offer taste tests to encourage clients to try new produce items. Additionally, incorporating produce into cooking classes will expose participants to the various ways a fruit or vegetable can be prepared.

> *If they say they don't like fruits and vegetables it's usually just that they haven't had it prepared in a way that they like. It takes someone nine to fifteen times to get used to something.*

Improve Preparation Skills

Many respondents offer cooking classes in which they incorporate fruits and vegetables and, as an incentive, send participants home with a bag of the ingredients. In this way, clients are able to learn how the various fruits and vegetables can be prepared and are then able to try the recipes at home with their families.

Get the Kids on Our Side

Because parents are reluctant to buy food their children will not eat, a few respondents suggested incorporating fruits and vegetables into the food banks' kid programs, such as the Kids' Café, in order to get children accustomed to eating them. Once the kids realize they actually do like fruits and vegetables, they will begin asking for them at home.

> *You hear a lot of parents say, "Oh, he won't eat that," but when we feed it to the kids in our program, like broccoli, they love it.*

Recommended Nutritional Campaigns

When asked about nutritional campaigns with which they are familiar, many respondents mentioned the USDA *5-A-Day* campaign. However, most food banks use either *My Pyramid* or stick with local efforts. The East Texas Food Bank customized the national *Eat Smart. Play Hard.* campaign to make it more kid-friendly and used it to advertise for their Summer Food Program, which provides free meals to youth during the summer break. The campaign was implemented via fliers, mailers, posters, billboards, and PSAs and reached an estimated 57.1 million people, based on the potential reach of the media market. After this campaign, Summer Food Program participation rates increased by almost 100% from the previous year. In general, however, respondents identified a need for more promotion of nutrition campaigns at the local and state levels.

Partner Programs

The most frequently mentioned partnering agencies were:

- Boys & Girls Clubs
- Senior citizen centers
- Schools
- Churches
- Shelters (e.g. homeless, domestic violence)
- Soup kitchens
- Food pantries
- Children's foster and residential agencies
- Housing authorities
- YMCA
- Red Cross
- Salvation Army

Partnering With WIC

Only five of the food banks have connections with WIC, and these are simply referral-based relationships.

> *I don't think we've actually partnered with them. Our Customer Services does outreach with our partners and sometimes they help WIC participants with their applications because usually if they qualify for Food Stamps, they qualify for WIC.*

Opinions and Suggestions Regarding the Changes in the WIC Food Package

Only three of the respondents had heard of the proposed changes in the WIC food package, and no one had heard of any recent updates on the implementation process.

Respondents felt that receiving less milk, cheese, juice, and eggs would be the most difficult change in the food package for WIC participants to accept. However, most felt that once participants realized they would be receiving a greater variety of food, they would be satisfied with the changes. They emphasized the need to educate WIC participants before the changes are implemented.

A few of the respondents' suggestions for educating WIC participants about the change are listed below.

- Food banks and WIC should have consistent messages on their Web sites, in their classes, and in their literature.
- Marketing should focus on the added variety and nutritional aspects of the package.

- Give out samples of new foods.
- Put information in clinics and supermarkets.
- Explain the nutritional reasoning behind the changes.

When asked about materials aimed at helping WIC participants with these changes, respondents emphasized the need to keep the terminology simple, incorporate artwork, and provide Spanish versions of the materials.

Only three of the respondents felt that they would receive questions from WIC participants regarding the food package changes.

Internet Access

All of the food banks represented in the interviews had access to the Internet.

CONCLUSION

In reviewing the food bank interviews, three primary conclusions can be drawn from the responses. First, limited access to fresh fruits and vegetables is a significant barrier for food banks, a barrier that then filters down to the low-income populations being served by TFBN and by WIC. In order to increase fruit and vegetable consumption, quality produce must be made readily available in the food banks and grocery stores serving this population.

Second, ongoing exposure to a variety of fruits and vegetables is necessary in order to increase consumption among low-income populations. Hands-on cooking classes and taste tests are ideal tactics toward this end. Furthermore, grocery bags filled with the ingredients used in the cooking class are an effective incentive and enable the participants to use their newly learned skills at home.

Finally, efforts to increase fruit and vegetable consumption will be made more effective by establishing a partnership among all state agencies working toward this goal. Although TFBN and WIC serve the same populations, there is little or no interaction between these agencies at the local level. Food bank respondents expressed an interest in developing a mutually supportive relationship with their local WIC agencies. Such a partnership would enable TFBN and WIC to promote a unified message to their clientele during the upcoming fruit and vegetable campaign.

Additional Comments and Suggestions for DSHS

Following are some miscellaneous comments of food bank respondents that DSHS might find useful and relevant.

> *All the facts about fruits and vegetables being nutritional won't help unless we have the funding to get them to the people. Packaging and transportation are costly. We need assistance from the State—the fuel is eating us up.*
>
> *Food banks and nonprofit groups operate in such a way that we can get discounted media space, so the State shouldn't forget about that. I can get billboard space donated that the State would have to pay for. The State should partner up with strategic groups. The for-profit market, like the grocery industry, that's where it's going to happen. I believe in integrative marketing—if their kids hear about it at school, then they see it in the store and see it on TV, they will get it.*
>
> *Ninety-six billion pounds of food go to waste in the nation each year, so if we can get some of that food, including fruits and vegetables, into the hands of those people, whether they like it or not, it would be better for everyone.*
>
> *My service area is 45,000 square miles, and the people in rural areas are very scattered. We have to take information to them.*
>
> *The main initiative among Texas food banks is that we are looking for a curriculum we can all use around the state. We want something more user-friendly than the USDA program. The curriculum would need to use food that our populations have access to, since they primarily use food pantries so, for example, they can't require a lot of spices.*
>
> *Clients have to be able to get produce into their homes. There needs to be a change at the grocery level and in the ability of food banks and agencies to store and provide fruits and vegetables.*

FINDINGS FROM NUTRITIONISTS AND COMMUNITY PARTNER INTERVIEWS

INTRODUCTION

SOSM researchers conducted one-on-one telephone interviews with individuals involved with selected WIC and community food projects to learn more about fruit and vegetable education and consumption among low-income Texas families. These individuals play a direct role in influencing produce consumption among families vulnerable to food insecurity, poor nutrition habits, and related health risks.

METHODOLOGY

Researchers conducted interviews with four WIC nutrition educators, two regional nutritionists, and three community project coordinators. Issues addressed in the interviews include current education programs about fruits and vegetables, challenges to implementing fruit and vegetable education, barriers to adding more fruits and vegetables to the family diets of low-income clients, best practices in client education, areas for improvement, anticipated difficulties for clients and educators in adapting to the new WIC food package, and suggestions of tools and strategies for providing behavior-changing education. Interviewees were also asked about collaborative partnerships with other agencies.

RESPONDENTS

To protect the confidentiality of the respondents, interviewee names are not used in this section of the report. Findings pertaining to WIC nutrition educators, regional nutritionists, and community partners are presented separately.

FINDINGS

WIC Nutrition Educators

The four WIC nutrition educators interviewed for this research project had 1 to 15 years of experience in their current positions. They represented WIC programs ranging in size from 8,600 to 99,600 client visits per month.

Current Fruit and Vegetable Education

Clients' Level of Nutrition Knowledge. The nutrition educators generally felt that client knowledge of nutrition had improved in the past five years. One nutrition educator said clients' level of knowledge is unknown because it is often not carefully assessed during clinic visits and client-centered education.

WIC Fruit and Vegetable Education Programs. Hands-on interactive strategies, such as cooking demonstrations, food-tasting events, and opportunities for recipe distribution and sharing, were reported to be the most well-received by clients.

> *Anecdotally, women say, "My children don't like that." With food demos, the kids get to sample, for example, bell pepper, and moms say, "I didn't know he'd eat that."*

Other strategies these interviewees mentioned included smart snack classes, online classes, bulletin boards, and classes on take-home DVDs. WIC education strategies are evolving to include more client-centered education and online classes.

Other Fruit and Vegetable Education Sources. Texas AgriLife (Better Living for Texas classes, Options classes, and diabetes education classes) and local food banks were the most frequently mentioned entities providing nutrition education that promoted fruits and vegetables. The Head Start program (classes for kids and parents, container garden classes) was also mentioned.

Client Priorities

Interviewees generally agreed that clients value fruit and vegetable education. They also agreed that the addition of fruits and vegetables to family meals takes second priority to other food issues, particularly food insecurity and feeding a family on a tight budget.

> *They value it because it pertains to the well-being of their families. Many times we may not see how they value it. They are very receptive to counseling and classes. They have a problem with implementation.*

> *Be a little bit careful not to be insulting to them. They have lots of priorities. The new WIC food package may help. They feel guilty enough without making them feel worse. They know their kids need them* [i.e., fruits and vegetables]. *They don't know how to make it work.*

Barriers to Client Use of Fruits and Vegetables
Unwillingness to waste food dollars on items the family may not eat is a primary barrier to inclusion of fruits and vegetables in family meals.

Lack of familiarity with food preparation techniques often is another obstacle to the incorporation of fruits and vegetables into the diet. Some WIC clients do not know how to cook and have no role models from whom to learn.

> *We hope our cooking classes bridge the* [implementation] *gap. The art of cooking is dwindling. Parents didn't cook either. Our society is no longer agricultural. People don't know where their food comes from.*

Several interviewees noted that clients believe fruits and vegetables are too expensive and are not knowledgeable about buying in-season products. Perishability also discourages clients who experience food insecurity and worry about stretching every food dollar. Clients do not know how to shop for lower cost, in-season produce.

> *"It costs too much" are the first words. It's cheaper to buy chips.*

> *Clients believe fruits and vegetables are too expensive.* [We should be] *teaching how to choose less expensive ones. The fact that the emphasis is not just on fresh makes it easier.*

> *Because WIC hasn't provided fruits and vegetables, other than the seasonal vouchers, it is difficult to teach people about buying items that are perishable.*

Geographic access to produce is a challenge in both rural areas (where produce choices are limited) and urban areas (where stores within walking distance may have fewer choices and lower quality produce than stores in more affluent neighborhoods). Access to farmers' markets is limited. Walking home from a store carrying both a child and groceries can be a daunting challenge.

Impact of Fruit and Vegetable Education

Successful Fruit and Vegetable Education. The WIC nutrition educators viewed interactive learning, such as food demonstrations and taste-testing events, as their most successful and most motivational strategies in fruit and vegetable education. These activities build confidence in using unfamiliar food items. Combining fresh and canned produce was mentioned as a strategy to help clients stretch food dollars and avoid problems with perishability.

> *Classes work well, but looking at something and seeing how* [to combine] *a few ingredients together works better. You see it in their faces.*

Opportunities for Improving Fruit and Vegetable Education. Interviewees offered several strategies for improving the effectiveness of fruit and vegetable education, including the following.

- Provide easy, appealing, and quick recipes
- Offer food demonstrations
- Use appropriate language—low-literacy and Spanish language materials
- Offer clients tips on how to add fruits and vegetables to their diets without increasing the family food budget, such as by demonstrating how to scan newspapers for sale items and generic brands

Smaller programs reported more flexibility in engaging participants in cooking demonstrations and food-tasting events. Larger scale, mostly urban programs found food demonstrations and tastings to be logistically difficult and occasionally in conflict with other department tasks related to food preparation monitoring.

> *Tasting is hard for us to do. It's a conflict of interest to buy food. Part of our agency does inspections. This is a big issue.*

The New WIC Food Package

Changes in the WIC Food Package. Nutrition educators anticipated several areas (listed below) in which returning clients would have difficulty adapting to the new food package.

- Increased use of whole grains, with which clients are generally unfamiliar
- Infant formula changes
- Reduction of juice products
- Reduction of milk, which is used to feed the family

Educational Strategies for Introducing the New WIC Food Package. Education about the new food package should begin well in advance of the package's implementation, according to several nutrition educators. They recommended emphasizing the additions to the food package rather than the reductions; talking about health benefits of the new package (e.g., reduction of constipation for pregnant women, cavity reduction for children); and using concrete, visual examples.

> *Tell people well ahead of time. People don't like feeling surprised or that they are losing something.*
>
> *Start early, at least six months in advance, which would be February. I really think they will be excited for the most part. We have talked about next year as the big change (fruits and vegetables) and they perk up.*
>
> *When talking about juice, for example, show proposed quantities, such as what a four-ounce cup looks like.*
>
> *Focus on additions and educate on subtractions.*

Intensive education with grocery store personnel should begin well in advance of the new food package initiation to help ensure that they fully understand the changes to WIC, can make accurate changes to signage on shelved products, and are prepared to provide clients with positive experiences at the checkout stand. In-store assistance with the buying process should be provided by WIC staff or store staff.

Nutrition educators said the question they most anticipate from clients is "why?"—meaning, why the change toward a reduction of whole milk.

Development of New Materials. Educational materials on the new food packages should be colorful, simple, and have minimal print content. Tools should be available in multiple forms: group classes, take-home DVDs that cover food preparation lessons, online classes, and bulletin board presentations. One nutrition educator suggested creating and distributing a brochure. Nutrition educators did not recommend posters, reporting that clinic walls are generally covered with them but they are seldom read.

One nutrition educator said the need for new materials might serve as an incentive to follow through on her ambition to write a children's book entitled *Why Milk*?

Additional Comments of WIC Nutrition Educators

> *We are also re-educating ourselves—to go from five servings to two cups, such as 12 baby carrots is a cup. An apple or a banana is a cup, but can you fit them in a cup?*

> *We think we'll see a big impact with what we say and what we provide being on the same page. We're all excited.*

Regional Nutritionists

Two regional nutritionists (with 4 years and 16 years of experience, respectively) participated in the survey.

Role of Regional Nutritionists

Both nutritionists interviewed reported that they partner with community agencies rather than with individuals. They make presentations to groups such as Parents Nights at schools, school classes, and university classes; act as resources to entities such as *promotoras*; and make an effort to accommodate informal inquiries from individuals such as Boy Scout den mothers.

> *The primary objective of the position is to work with communities to put into place policy and environmental changes that support more healthful eating and physical activity.*

Fruit and Vegetable Education

Current Fruit and Vegetable Education. In partnership with AgriLife, regional nutritionists may talk about portion control and the importance of avoiding enhancements. They may also introduce school students to fruits and vegetables with which they are unfamiliar.

> *We teach fresh, frozen, canned is all good, but that adding cream sauces, et cetera, is a problem.*

> *With younger children, I have let them play with the food and create artwork: a tortilla with cream cheese on which they stick food samples and then eat it.*

Regional nutritionists order CDC materials and explain packets as they relate to the interested audience.

Agency policy disallows budget expenditures on food, so a community partner such as AgriLife may sometimes purchase food for demonstrations.

Additional Fruit and Vegetable Education Programs. The regional nutritionists reported a wide range of other community fruit and vegetable education opportunities, including those provided by WIC, Texas AgriLife, the Marathon Kids program (Austin), school gardening programs, upcoming farmers' markets, and a United Way grant that funded education in ten schools.

Client Priorities

Clients value nutrition education but don't know how to apply it. Preoccupation with non-food family issues, such as preventing gang involvement and drug use, were also listed as challenges to attending to proper nutrition.

Barriers to Client Use of Fruits and Vegetables

Barriers to client use of fruits and vegetables could be succinctly summed up as lack of time, financial limitations, and transportation issues.

> *In some neighborhoods, both inner-city and some very rural, isolated areas, there is no local access to fresh fruits and vegetables. They may once a week travel a hundred miles to do a big grocery shopping. They don't buy a lot of fresh produce.*

> *The problem is not the education. It is what they can do with the information after they get it.*

From the point of view of the regional nutritionists interviewed, the primary challenge was familiar: to educate about cost efficiency, shopping skills, and money management so that families can maximize their food dollars and manage limited time.

> *They don't want to buy foods already cut up, like salad in a bag—too expensive—and don't want to spend time to chop and dice fresh stuff.*

Impact of Fruit and Vegetable Education

Successful Fruit and Vegetable Education. Regional nutritionists said demonstrations, hands-on preparation, and taste testing were very effective. One interviewee suggested that empowerment and self-esteem building would be a first step toward successful nutrition implementation.

> *I've found that feeding them something that tastes good seems to work. We partner with AgriLife and the Junior League. They go to four schools and do cooking demonstrations. People will come for a free meal.*

Opportunities for Improving Education. Regional nutritionists mentioned discussion with other professional groups as part of the process leading to more effective education. One suggested that more emphasis on health benefits and risks may help motivate low-income shoppers.

The New WIC Food Package

Changes in the WIC Food Package. Both regional nutritionists said that increased support for fruit and vegetable consumption would be exciting to clients, but access to attractive produce would be an issue. Education about protein changes in the WIC food package was also encouraged.

The regional nutritionists anticipated questions from clients regarding food preparation for new and unfamiliar items. Some women may ask about the health benefits and changes in WIC-eligible dairy products.

Educational Strategies for Introducing the New WIC Food Package. It will be important to explain the changes to clients in a positive way and to inform them that the increased provision of fruits and vegetables is the result of a better understanding of their value in a nutritious diet.

> *Let them know that a general health assessment had led to more options for a healthier lifestyle.*

Some effective strategies may be more labor-intensive. Clients' access to fresh produce may be improved by expanding hands-on learning opportunities and demonstrating strategies to address access issues—for example, a WIC-office-sponsored field trip to a farmer's market or grocery store. Teaching school children may help as well. One interviewee described an event in which fifth-graders were taken to a farmers' market. Each child was given $1, and they went into the market in adult-supervised groups of 8 to 12 The farmers talked to them, and each student bought something. They went back to the classroom and combined their purchases to make a salad.

> *Showing people how to shop at a farmers' market. Something could be done in a supermarket too, field trips.*

Some women's access to markets or transportation may be affected by safety and cultural concerns, which can be addressed as well.

> *Partner up to travel to stores if you're a single mom. Cultural and safety demands require some women to travel in groups rather than alone.*

Development of New Materials. The interviewed regional nutritionists did not want more brochures. They proposed more innovative tools and games for adults as well as children, such as placemats for children and their families and "any games but food bingo." Checklists and journals, combined with simple presentations, were also recommended.

To smooth the transition for WIC shoppers, it is important to work closely with grocery store partners to educate checkout staff and adapt shelf signage to the new WIC food package.

Additional Comment of a Regional Nutritionist

> *So much of this population is Hispanic, they may live in a city with a market. The store may sell fruits and vegetables they don't know, but not sell nopales, for example. More of those could be incorporated. That population likes fruits and vegetables. They seem to be able to find fruits, but are not so successful with vegetables.*

Community Partners
Community partner interviewees represented a farmers' market project and a community garden project within an established food bank.

Projects, Goals, and Roles in Fruit and Vegetable Education

Farmers' Market Project. The goal of the Farmers' Market project was to implement changes in environmental policy within local communities. The Farmers' Market project in the Ft. Worth area (one market is currently in existence and one is in the planning stages) focuses on establishing market locations accessible to low-income families and delivering message signage about fruits and vegetables. It serves paying customers and those with WIC vouchers. The project is in its first year, and its success is being measured in terms of voucher redemption and distribution of recyclable shopping bags. The project is promoted through temporary magnetic automobile signs, billboards, and word of mouth. The greatest challenge is the dearth of farmers within 150 miles of the market.

A key lesson learned from the farmers' market experience was to enter the project with an understanding of the conservative nature of local farmers, which can influence partnerships and their willingness to take risks with crop variety.

> *Farmers are very independent people. The thing that makes them wonderfully independent also probably causes them to be conservative in their business ventures. A drought could wipe them out.*

Successful marketing hinges on market visibility and word-of-mouth communication.

Community Garden. The second community project, a relatively new, seven-acre community garden in San Antonio, is under way under the auspices of a city food bank. The goals are to produce healthy fruits and vegetables for low-income families (who participate in the gardening process) and thus improve their diets, and to educate them about the health benefits and preparation of fruits and vegetables. The Community Garden project engages the community in sustainable agriculture, improved nutrition, and out-of-doors physical activity. The garden is about 14 months old and serves primarily low-income families. Planned evaluation will focus on pre- and post-nutrition education and follow-up with those who use the garden. Garden produce is supplemented by donations from the local produce terminal; produce is also donated by local gardens and commercial farms in the Rio Grande Valley. The project is publicized through its network of 400 agencies that feed about 25,000 individuals per week in a 16-county region. A nutrition education team provides classes in outlying areas, at the food bank, and in the garden. The greatest challenges are the limited volume of produce, the short growing season, the severity of Texas summers, which discourages garden work, limited irrigation capacity, and staff shortages.

Take on what you think you can do and sustain without going too far down the road.

The key lesson learned from the community garden experience is that success depends on a long-term commitment as well as on access to and control of the property. A balance must be struck between garden potential and financial, climatic, and labor-related realities.

Fruit and Vegetable Education and Consumption

According to the community partners interviewed, providing clients with samples of unfamiliar foods is essential to changing food consumption patterns.

> *Help them get over the preparation myth, such as an acorn squash. Do you peel it, slice it, dice it? What part do you eat? Do you salt it or butter it?*

This group of interviewees also views the cost of produce as a major barrier to consumption.

> *Produce in the local convenience store or market is not in the best condition and* [is sold at] *the highest price.*

Perishability is an issue when food is transported out to the broader 400-agency network.

Fruit and vegetable education can be improved through continuing emphasis on shopping economics: buying in-season produce, combining fresh items with frozen, and suggestions about how to stack meals (e.g., by using lettuce for hamburgers in one meal and in a salad for the next meal).

Knowledge of WIC and the New Food Package. WIC is integral to both of the community partner programs. The farmers' market is within the same department as WIC, which serves 56,000 clients a month. The food bank, which supports the community garden, provides samples of food to participants and promotes federal benefits to those who qualify.

Promotion of new foods through sampling and taste testing is essential to cultivating new habits and a new palate.

> *We get some amazing high-end breads that the bakers give us for free. We take them to the shelter, where the guys say, "I wish you'd stop leaving this junk off, leave it in the trash. The crust is hard." Their familiarity is that hard crust means old bread and old bread means bad and bad means "I'm not going to eat it." They want really soft, light, sliced, cheap bread. We say our crust is really kind of wonderful. Heat it up and put something on it. Change is hard, but change is good.*

Suggestions for Materials. The community partners suggested strategies rather than materials. They mentioned strategies such as educating grocery store staff and putting a positive "spin" on the food package changes, focusing on the increase in variety rather than on the reduction in the quantities of certain items.

> *Like those little shelf markers that mark foods in the grocery store. It will be really important to make sure grocery stores understand the change and correctly place those WIC markers …. In 28 years it has not changed, and now it will. Some people at the stores have a little attitude …. Clients get more upset at the grocery store than at WIC when bad experiences occur.*

One interviewee addressed the psychological connection to food, noting that clients don't want to feel beholden and should be encouraged to understand that this is a nutrition program rather than a welfare program.

Suggestions of educational tools centered on tangible visual items and strategic props and signage.

> *We use a lot of props and real tangible demonstrations, like a bottle of soda pop or a 44-ounce cup of sweet tea. And they'll have there the actual volume of sugar in those beverages.*

The interviewer's request for suggestions of educational materials drew less interest than the request for suggestions of strategies. The only material suggestion offered was to

design a printed piece to communicate with WIC partners, such as visiting home nurses or teachers at residences for teen parents.

CONCLUSIONS

WIC nutrition educators, regional nutritionists, and community partners mentioned similar themes in their suggestions for increasing fruit and vegetable consumption within low-income families.

- The inclusion of fruits and vegetables in the diets of low-income families is directly influenced by real or perceived costs, knowledge of fruits, vegetables, and easy preparation methods, time constraints, and access to appealing produce.

- Innovative, interactive, hands-on demonstrations, opportunities to taste unfamiliar fruits and vegetables, and easy recipes are essential tools in increasing the content of fruits and vegetables in the meals of low-income families. Printed materials must be simple, colorful, and fresh. These strategies apply to educational campaigns promoting other food groups as well.

- Increased access to fresh produce may be facilitated through additional innovative, off-site strategies, including field trips to grocery stores and markets, and displays, booths, or personal assistance in grocery stores. Close partnership with grocery stores is critical to ensuring a smooth transition and a positive shopping experience for WIC and low-income clients.